AM5002725 BOOK EXPLOITATION UR/

Kablukov, A. D.; Sochevanov, N. N.; Baranov, E. N.; Bogolyubov, A. N.; Vertepov, G. I.; Grigoryan, S. V.; Mayorova, Ye. A.; Razumovskiy, N. K.; Tulin, V. N.; Yanishevskiy, Ye. M.; comps.

Use of diffusion aureoles of uranium and associated elements in prospecting and surveying for hydrothermal uranium deposits; methodologic handbook (Ispol'sovaniye oreolov rasseyaniya urana i elementov-sputnikov pri poiskakh i razvedke gidrotermal'nykh uranovykh mestorozhdeniy; metodicheskoye rukovodstvo) Moscow, Izd-vo "Nedra", 1964. 194 p. illus., biblio., append. 2350 copies printed. (At head of title: Gosudarstvennyy geologicheskiy komitet SSSR). Managing editor: for the publishing house: F. N. Chumakova; Technical editor: T. M. Shmakova; Proofreader: A. A. Sivakova

TOPIC TAGS: geochemical prospecting, hydrothermal uranium deposit, primary uranium diffusion aureole, radiometric anomaly, secondary uranium diffusion aureole, uranium ore deposit

PURPOSE AND COVERAGE: The purpose of this handbook is to describe the laws governing the distribution of uranium and associated elements in the indigenous rocks

Card 1/3 UDC: 553.495:552.142

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around hydrothermal uranium-ore bodies and in the river deposits above them; to demonstrate the possibility, the role, and the place of geochemical methods in solving such problems; and to describe the results of work on the development of primary and secondary diffusion aureoles of uranium and its associated elements. In addition to their own work, the authors used data from A. G. Vetrov, N. A. Voroshilov, V. S. Goliusov, O. D. Gorbunov, M. Ya. Dar, V. M. Konstantinov, M. V. Kutenkov, L. T. Mishin, Ye. A. Sizov, and others. Most of the spectral and luminescent analyses were performed by L. F. Davydova, Yu. T. Donets, B. M. Yelovev, E. V. Mozolevskaya, and R. V. Timofeyeva.

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SUB CODE: 08 /SUBM DATE: 09Jul64 /SOV REF:084 /OTH REF:011

Card 3/3

BOGOLYUBOV, A.N. (Kiyev)

Development of the science of machinery during the first half of the 19th century. Vop.ist.est.i tekh. no.10:138-141 '60. (MIRA 14:3)

(Mechanical engineering)

BOGOLYUBOV, A.N. (Kiyev)

Fundamentals of technology in L. Euler's works. Vop. ist. est. i tekh. no.13:124-129 '62. (MIRA 16:5)

(Technology)

BOGOLYUBOVA, G.F.; BOGOLYUBOV, A.N.

Some characteristics of the distribution of ore bodies in the phlogopite zones of the Aldan Plateau based on combined geological and geographical surveying data and problems of prospecting for blind mica-bearing zones. Zakonom. razm. polezn. iskop. 6:403-419 '62. (MIRA 16:6)

1. Yakutskoye geologicheskoye upravleniye.
(Aldan Plateau--Phlogopite)
(Aldan Plateau--Prospecting)
(Aldan Plateau--Mica)

GARAGULYA, L.S.; TRUSH, N.I.; BOGOLYUBOV, A.N.

Using geophysical methods for surveying frozen ground dragging areas in the northern Yenisey Range region. Merzl. issl. no.3:44-55 '63. (MIRA 17:6)

BOGOLYUBOV, A.N.

Accumulation of uranium in alluvial sediments in the areas of granite development. Vest.Mosk.un.Ser.4, Geol. no.1, 1964.

(MIRA 17:3)

SOCHEVANOV, N.N.; KABLUKOV, A.D.; BARANOV, E.N.; BOGOLYUBOV, A.N.; VERTEPOV. G.I.; GRIGORYAN, S.V.; MAYOROVA, Ye.A.; RAZUMOVSKIY, N K.; TULIN, V.N.; YANISHEVSKIY, Ye.M.; SOLOVOV, A.P., red.

[Using dispersion halos and accompanying elements in prospecting for hydrothermal uranium deposits; methodological handbook] Ispol'zovanie oreolov rasseianiia urana i elementov-sputnikov pri poiskakh i razvedke gidrotermal'nykh uranovykh mestorozhdenii; metodicheskoe rukovodstvo. Moskva, Nedra, 1964. 194 p. (MIRA 17:9)

1. Russia (1923- U.S.S.R.) Geologicheskiy komitet.

BOGOLYUBOV, Aleksey Nikolayevich; SHTOKALO, I.Z., akademik, otv. red.; ORLIK, Ye.L., red.

[History of mechanical engineering] Istoriia mekhaniki mashin. Kiev, Naukovadumka, 1964. 460 p. (MIRA 17:12)

1. Akademiya nauk Ukr.SSR (for Shtokalo).

BOGOLYUBOV, A.N.; KUNITSYNA, R.V.; SOCHEVANOV, N.N.

Using combined geophysical methods during prospecting for mineral waters in Dzhetyoguz. Sov. geol. 7 no.10:141-150 O '64. (MIRA 17:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut razvedochnoy geofiziki.

SHTOKALO, I.Z.; KALUZHNIN, L.A.; BLAGOVESHCHENSKIY, Yu.V.; BOGOLYUBOV, A.N.

Vladimir Petrovich Vel'min, 1885- ; on his 80th birthday.
Ukt. mat. zhur. 17 no.5:137-138 '65.

(MIRA 18:12)

BOGOLYUBOV, A.P.

We struggle to save each kw. Elek.i tepl.tiaga 4 no.1:6-7 Ja '60. (MIRA 13:4)

1. Nachal'nik remontno-revizionnogo tsekha Kurganskogo uchastka energo-snabzheniya Yuzhno-Ural'skoy dorogi.
(Electric railroads--Cost of operation)

L 5?359-65 EWA(h)/EWT(l)/EWT(m)/T Pz-6/Pab IJP(c) AT/JW/JD

ACCESSION NR: AP5014862 UR/0041/65/017/003/0003/0015

AUTHOR: Bogolyubov, N. N. (Moscow)

TITLE: Calculation of free energy for molecular systems

SOURCE: Ukrainskiy matematicheskiy zhurnal, v. 17, no. 3, 1965, 3-15

TOPIC TAGS: semiconductor research, semiconductor, Hamilton equation, solid state, solid state physics, free energy

ABSTRACT: The use of hamiltonian models with a general mathematical definition of the nucleus is studied. The general nucleus definition is given as

$$I(l,f)=\sum_{|\alpha|\le a}\lambda_\alpha(l)\cdot\lambda_\alpha^*(f),$$

where S is a fixed value, and $\lambda_\alpha(l)$ is restrained by the conditions

$$\lambda_\alpha(-l)=-\lambda(l),$$

$$\frac{1}{2p}\sum_{|l|}|\lambda_\alpha(l)|<a_\alpha$$

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L 58959-65

ACCESSION NR: AP5011862

$$\frac{1}{V}\sum_{qr}|T_r\cdot\lambda_q(r)|\leq a_0$$

$$\frac{1}{V}\sum_{qr}|\lambda_q(r)|^2\leq a_0\quad(1<a<2)_2$$

The work of other researchers who used various nucleus descriptors (factorable forms, harmonics, etc) in conjunction with Hamiltonians is reviewed. Two fundamental deficiencies were noted in past work: either the nuclear force [illegible] restricted, or the computational task involved was very cumbersome. The Hamiltonian used by the author is of the form

$$H=T-2V\sum_{q>0}J_q\cdot J_q^+,$$

where

$$T=\sum_{qr}T_r\cdot a_r^+a_r;\qquad J_q=\frac{1}{2V}\sum_{qr}\lambda_q(r)a_r^+a_{r-q}^+$$

In this model a_r^+ and a_r^- are Fermi amplitudes, and $T_r=\frac{p^2}{2m}-\mu$, where μ is the chemical potential. Additional general conditions are given as

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L 58959-65

ACCESSION NR: AP5011862

$$|I_T| \leqslant K_0.$$

$$|J_\alpha| \leqslant K_1, \quad |TJ_\beta - J_\beta T| \leqslant K_2,$$

$$|J_\alpha^+ J_\beta - J_\beta J_\alpha^+| \leqslant \frac{K_2}{V}, \quad |J_\alpha J_\beta - J_\beta J_\alpha| \leqslant \frac{K_3}{V},$$

where K_0, K_1, K_2, and K_3 are certain constants for $V \longrightarrow \infty$, f_T is the free energy computed for unit volume with the Hamiltonian $H = T$. Using the basic free energy equation

$$f_H = -\frac{\gamma}{V}\theta \ln \mathrm{Sp}\, e^{-\frac{H}{\theta}},$$

the author demonstrates how the difference $(f_{H_0} - f_H)$ goes to zero as $V \longrightarrow \infty$. H_0 is defined in the equation

$$H^0 = T - 2V \sum_{1<\alpha<} (C_\alpha J_\alpha^+ + C_\alpha^* J_\alpha) + 2V \sum_{1<\alpha<} |C_\alpha|^2.$$

Following the mathematical proof and discussion are certain examples wherein specific cases of the general nucleus model are expanded. Orig. art. has: 38 equations.

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L 58959-65
ACCESSION NR: AP5011862

ASSOCIATION: none

SUBMITTED: 12Feb65 ENCL: 00 SUB CODE: SS

NO REF SOV: 009 OTHER: 013

Card 4/4

BOGOLYUBOV, A.P.

Experience in the use of MT and EH relays at sectionalizing points. Elek. i tepl. tiaga 4 no.11:16 N '60. (MIRA 13:12)

1. Nachal'nik remontno-revizionnogo tsekha Kurganskogo uchastka energosnabzheniya Yuzhno-Ural'skoy dorogi.
(Electric railroads--Equipment and supplies)
(Electric relays)

BOGOLYUBOV, A.P.; ARTYUSHIN, N.A., starshiy elektromekhanik

How we eliminated the malfunctioning of the sectional cutoff drives. Elek.i tepl.tiaga 6 no.2:9-10 F '62. (MIRA 15:2)

1. Nachal'nik remontno-revizionnyy tsekh Kurganskogo uchastka energosnabsheniya (for Bogolyubov). 2. Remontno-revizionnyy tsekh Kurganskogo uchastka energosnabzheniya (for Artyushin).

KUZNETSOV, K.F.; BOGOLYUBOV, A.S.; KUROCHKIN, S.S.

Transistorized logic elements for electronic apparatus. Nauch.-tekh. sbor.Gos.izd-va lit. v obl. atom. nauki i tekh. no.4:7-15 '62.

Transistorized matching and shaping elements for electronic apparatus. 16-24 (MIRA 16:10)

KUZNETSOV, K.F.; ABUZINA, I.N.; BOGOLYUBOV, A.S.; VOLKOVA, R.G.

Design and analysis of transistorized triggering circuits. Nauch.-tekh.sbor.Gos.izd-va lit. v obl. atom. nauki i tekh. no.4:44-57 '62. (MIRA 16:10)

New Modification of the Capacitance Method of Measuring Potential Difference and Its Application to the Study of Contact Potentials of Semiconductors, by B. F. Borshchuboy. (*Radiotekhnika i Elektronika*, March 1957, Vol 2, No. 3, pp. 323-327.) The effect of illumination and pressure on the potential difference in metallic Se contacts is investigated. For a pressure $P < 5 \times 10^{-3}$ mm Hg this contact potential does not depend on illumination and remains approximately constant, but for $P \geq 2 \times 10^{-3}$ mm Hg the contact potential varies linearly with weak illumination. Results for seven samples are tabulated.

BOGOLYUBOV, B. N., Engineer

Cand. Tech. Sci.

"Investigation of Certain Problems of the Theory and Operation of Grabbing Cranes." Sub 27 Jun 47, Moscow Order of the Labor Red Banner Electromechanical Inst of Railroad Engineers imeni F. E. Dzerzhinskiy

Dissertations presented for degrees in science and engineering in Moscow in 1947

SO: Sum No. 457, 18 Apr 55

BOGOLYUBOV, B. N.

Putevyye i stroitel'nyye mashiny.
Moscow, 1951 -
Vol. -

A textbook for the railroad transport schools, dealing with the construction, use, and repair of basic machines and equipment used on tracks in railroad construction; published as a government railroad transport edition. (For Hollings, See ID Card).

1. BOGOLYUBOV, B. N.

2. USSR (600)

4. Loading and Unloading

7. Mechanics of bulk cargo. R. L. Zenkov. Reviewed by B. N. Bogolyubov. Sov. kniga no. 3 1953

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

BOGOLYUBOV, B.N.

TOLMAZOV, Aleksandr Fedorovich; BOGOLYUBOV, B.N., kand. tekhn. nauk, red.; VERINA, G.P., tekhn. red.

[Manual for the operator of electric ballast machinery] Posobie mekhaniku elektroballastera. Moskva, Gos. transp. shel-dor. izd-vo, 1958. 153 p. (MIRA 11:7)

(Ballast (Railroads))

BOGOLYUBOV, B., inzhener-polkovnik, dotsent, kand. tekhn. nauk; MALYGIN, A., inzhener-mayor

The high-speed trenching machine is becoming more reliable. Tekh. i vooruzh. no.3:63-64 Mr '64. (MIRA 17:8)

BOGLYUBOV, B.N.

[Durability of excavating and road machinery] Dolgovechnost' zemleroinykh i dorozhnykh mashin. Moskva, Mashinostroenie, 1964. 223 p. (MIRA 17:10)

BOGOLYUBOV, B.N., kand. tekhn. nauk; MALYGIN, A.A., kand. tekhn. nauk

Wear of road-machinery parts and its effect on their durability. Stroi. i dor. mash. 10 no.1:12-14 Ja '65 (MIRA 18:2)

BOGOLYUBOV, B.N., kand. tekhn. nauk, dotsent; MALYGIN, A.A., kand. tekhn. nauk

Investigating the wear resistance of built-up alloys subjected to abrasive rolling friction. Vest. mashinostr. 45 no.1:42-44 Ja '65. (MIRA 18:3)

1964

BOGOLYUBOV, Boris Petrovich [deceased]; GRACHEV, Fedor Grigor'yevich; POKROVSKIY, M.A., kand. tekhn. nauk, retsenzent;

DECEASED

[Selective mining of complex ore deposits] Razdel'naia razrabotka mestorozhdenii slozhnogo sostava. Moskva, Izdv-vo "Nedra," 1964. 166 p. (MIRA 17:8)

BOGOLYUBOV, B.P., prof., doktor tekhn.nauk [deceased]; ASTAF'YEV, Yu.P., kand. tekhn.nauk

Utilization of underground workings in strip mines. Gor.zhur. no.3: 14-19 Mr '65. (MIRA 18:5)

L 09309-67 EWT(k)/EWT(m)/EWP(t)/ETI IJP(c) JD/HW

ACC NR: AR6033107 SOURCE CODE: UR/0137/66/000/007/D043/D043

AUTHOR: Bogolyubov, G. K.; Gol'dfarb, V. M.; Donskoy, A. V.; Kostygov, A. S.; Stepanov, A. V.

TITLE: Producing thin-walled flattened sheet pipe (radiator strip) directly from the melt

32

SOURCE: Ref. zh. Metallurgiya, Abs. 7D316

REF SOURCE: Uch. zap. Leningr. gos. ped. in-ta im. A. I. Gertsena, no. 365, 1965, 75-89

TOPIC TAGS: pipe, metal drawing, radiator pipe, flattened pipe

ABSTRACT: Metal drawing for radiator strip has been carried out on a laboratory unit. The strip was drawn from A Mts alloy. The type of equipment and some technological problems were developed and solved for producing 4-, 6- and 10-channel strip with a 0.3—1.0-mm gage. The production technology for a 13 channel strip is described. An experimental batch (~300 m) of radiator strip for two radiators of a tractor radiator was produced and analyzed. Semicontinuous and continuous units were designed for producing thin-walled flattened sheet pipes

Card 1/2 UDC: 621.774.21

L 09389-67
ACC NR: AR6033107

directly from the melt. Orig. art. has: 8 figures. Bibliography of 15 titles.
L. Kochenova. [Translation of abstract]

SUB CODE: 13/

Card 2/2 pde

BOGOLYUBOV, G.M.; RAZUMOVA, N.A.; PETROV, A.A.

Synthesis of phospholine and phospholidine, phosphorus-containing heterocycles. Zhur.ob.khim. 33 no.7:2419-2420 Jl '63. (MIRA 16:8)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta. (Phospholine)

L 22660-65 EPF(c)/EWP(j)/EWT(m)/T Pc-4/Pr-4 RM/MLK
ACCESSION NR: AT5002113 S/0000/64/000/000/0075/0079

AUTHOR: Sokolovskiy, M.A.; Zavlin, P.M.; Medenikova, N.Ye.; Bogolyubov, G.M.; Gefter, Ye. L.; Moshkin, P.A.

TITLE: Phosphorus-containing monomers with different functional groups

SOURCE: AN SSSR. Institut neftekhimicheskogo sinteza. Sintez i svoystva monomerov (The synthesis and properties of monomers). Moscow, Izd-vo Nauka, 1964, 75-79

TOPIC TAGS: organophosphorus compound, polycondensation, vinylphosphinic acid, polyster, polyamide

ABSTRACT: The purpose of this investigation was the preparation of phosphorus-containing monomers with functional groups capable of combining the reactions of polycondensation and polymerization. The investigation dealt with certain derivatives of vinylphosphinic acid, which, because of their availability could become of practical interest. From the point of view of the synthesis of phosphorus-containing polymeric compounds (polyesters, compounds of the polyamide type), new phosphorus-containing analogs of terephthalic acid with a P-C bond were synthesized. By reacting the di-(β-chloroethyl) ester of vinylphosphinic acid with amino-alcohols and amino-carboxylic acids, new phosphorus-containing monomers were obtained which contain different functional groups. These functional groups

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L 22660-65
ACCESSION NR: AT5002113

were secondary amine, hydroxyl, and carboxyl groups, which are capable of condensation, as well as the vinyl group which facilitates polymerization. Orig. art. has: 10 formulas.

ASSOCIATION: None

SUBMITTED: 30Jul64 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 007 OTHER: 000

Card 2/2

BOGOLYUBOV, G.M.; PETROV, A.A.

Synthesis of sulfides of tertiary acetylenic phosphines. Zhur. ob. khim. 35 no.4:704-707 Ap '65. (MIRA 18:5)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

BOGOLYUBOV, G.M.

Conditions for the formation of the P-P bond in the action of Grignard reagents on thiophosphoryl halides. Zhur. ob. khim. 35 no.4:754 Ap '65. (MIRA 18:5)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

BOGOLYUBOV, G.M.; PETROV, A.A.

Interaction between Iozich's reagent and phosphorus thiohalides. Zhur. ob. khim. 35 no.6:988-992 Je '65. (MIRA 18:6)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

EWT(m)/EWP(j) RM

ACC NR: AP6016687 SOURCE CODE: UR/0079/65/035/009/1566/1570

AUTHOR: Bogolyubov, G. M.; Mingaleva, K. S.; Petrov, A. A.

ORG: Leningrad Technological Institute im. Lensovet (Leningradskiy tekhnologicheskiy institut)

TITLE: Dipole moments of certain acetylenic derivatives of phosphorus

SOURCE: Zhurnal obshchey khimii, v. 35, no. 9, 1965, 1566-1570

TOPIC TAGS: dipole moment, intramolecular mechanics, UV spectrum, sulfide, halide, organic phosphorus compound, phosphorus

ABSTRACT: The intramolecular electronic interactions in the molecules of sulfides of tertiary alpha,beta-unsaturated phosphines were studied by determining their dipole moments and ultraviolet spectra. The dipole moments were obtained for the phosphine sulfides, thiophosphroyl halides, and halides of tricoordinated phosphorus and correlated with the Taft inductive constants. The increase in the dipole moments of sulfides of tertiary acetylenic phosphines with increasing sum of the inductive constants of the substituents on the phosphorus atom may be explained by a positive electronic effect, directed identically with the vector of the total moment of the molecule. The dipole moments of halides of tricoordinated phosphorus decrease with increasing electron-attracting ability of the substituents, analogously to the triphosphoryl

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UDC: 547.341+537.226.1

ACC NR: AP6016687

halides. The patterns observed are explained by conjugation of the triple bonds with the phosphorus atom, the possibility of which is confirmed by the ultraviolet spectra of the sulfides of tertiary unsaturated phosphines. Orig. art. has: 1 figure, 2 formulas, and 5 tables. [JPRS]

SUB CODE: 07, 20 / SUBM DATE: 23Jun64 / ORIG REF: 003 / OTH REF: 002

Card 2/2

L 04848-67 EWP(j)/EWT(m) RM

ACC NR: AP7000241

SOURCE CODE: UR/0079/66/036/004/0724/0727

AUTHOR: Bogolyubov, G. M.; Petrov, A. A.

22
8

ORG: Leningrad Technological Institute im. Lensovet (Leningradskiy tekhnologicheskiy institut)

"Sulfides of Tertiary Styrylphosphines"

Moscow, Zhurnal Obshchey Khimii, Vol 36, No 4, 1966, pp 724-727

Abstract: The reaction of thiophosphoryl halides with organomagnesium compounds in ether or tetrahydrofuran yielded sulfides of tertiary phosphines, as well as diphosphine disulfide, containing styryl substituents at the phosphorus atom. The reactions of styryl magnesium bromide both with thiophosphoryl trichloride and with styrylthiophosphoryl dichloride yielded only tristyrylphosphine sulfide. The corresponding tertiary phosphinesulfides were also obtained by reaction of styryl magnesium bromide with phenylthiophosphoryl dichloride (distyrylphenylphosphine sulfide) and with dimethylthiophosphoryl chloride (dimethylstyrylphosphine sulfide), and of styrylthiophosphoryl dichloride with phenylethynyl magnesium bromide (styryldi(phenylethynyl)phosphine sulfide) and with phenyl magnesium bromide (styryldiphenylphosphine sulfide). Two products were obtained in

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UDC: 547.341+541.67

0923

L 04848-67

ACC NR: AP7000241

the reaction of styrylthiophosphoryl dichloride with methyl magnesium bromide in ether: 1,2-dimethyl-1,2-distyryldiphosphine disulfide, and dimethylstyrylphosphine sulfide. The physical constants, nuclear magnetic resonance, infrared, and ultraviolet spectra of the products were studied. Orig. art. has: 2 figures and 2 tables. [PRS: 37,177]

TOPIC TAGS: organomagnesium compound, phosphinic acid, styrene

SUB CODE: 07 / SUBM DATE: 03 Feb 65 / ORIG REF: 002 / OTH REF: 003

Card 2/2

ACC NR: AP7003668

SOURCE CODE: UR/0079/66/036/008/1505/1505

AUTHOR: Bogolyubov, G. M.; Petrov, A. A.

ORG: Leningrad Technological Institute im. Lensovet (Leningradskiy tekhnologicheskiy institut)

TITLE: Synthesis of compounds with a P-P bond from elementary phosphorus

SOURCE: Zhurnal obshchey khimii, v. 36, no. 8, 1966, 1505

TOPIC TAGS: alkylphosphine, phosphorus, sodium, ammonia

ABSTRACT: Compounds with a P-P bond were produced by the reaction of red phosphorus with sodium and hydrocarbon halides in liquid ammonia. Tetramethyl- and tetraethyldiphosphines, ethyl- and diethylphosphines, and also tetramethyldiphosphine disulfide, tetraethyldiphosphine disulfide, 1,2-dimethyl-1,2-diethyldiphosphine disulfide, triethylphosphine sulfide, diethylbenzylphosphine sulfide, methylethylbenzylphosphine sulfide, and other compounds were prepared by this method. Orig. art. has: 3 formulas. [JPRS: 38,970]

SUB CODE: 07 / SUBM DATE: 20Apr66 / ORIG REF: 002 / OTH REF: 001

Card 1/1 jb

UDC: 547.241

0926 0203

BOGOLYUBOV, G.V.; RUBTSOV, V.K.

Hydraulic device for slow motion. Prib. i tekh. eksp. 7 no.3: 197 My-Je '62. (MIRA 16:7)

1. Moskovskiy inzhenerno-ekonomicheskiy institut.
(Oil hydraulic machinery)

S/120/62/000/003/047/048
E194/E455

AUTHORS: Bogolyubov, G.V., Rubtsov, V.K.

TITLE: A hydraulic device for slow displacement

PERIODICAL: Pribory i tekhnika eksperimenta, no.3, 1962, 197

TEXT: Steady movements at slow rates between some fractions of a millimetre and millimetres/second are required in a number of processes, such as growing single crystals and zonal melting. A suitably uniform movement has been obtained with a piston and oil cylinder. The object that is to be moved is attached to the weight-loaded rod of a piston. Both ends of its cylinder are closed and are connected by an external pipe with control valve. Adjustment of the valve regulates the rate of flow from the lower to the upper part of the cylinder and hence the rate of travel. One device that has been constructed has a rate of travel between 10 and 200 mm/min with a stroke of 240 mm. There are 2 figures.

ASSOCIATION: Moskovskiy inzhenerno-ekonomicheskiy institut (Moscow Institute of Engineering-Economics)

SUBMITTED: September 27, 1961

Card 1/1

BOGOLUBOV, I. N.

"Ternary threshold (majority decision) elements and problems of their synthesis" report submitted for the Intl. Symposium on Relay Systems and Finite Automata Theory (IFAC), Moscow, 24 Sep-2 Oct 1962.

L 32239-65

ACCESSION NR: AP5002686 S/0280/64/000/006/0001/0010

AUTHOR: Bogolyubov, I. N. (Leningrad). Varshavskiy, V. [illegible]

TITLE: [illegible] of the functions of three [illegible]

SOURCE: AN SSSR Izvestiya. Tekhnicheskaya kibernetika, no. 6, 1964, 1-10

TOPIC TAGS: [illegible] dispersive normal [illegible] system

ABSTRACT: Based on the topological method of R. H. [illegible] Moeller (Trans. IRE P.G.E.C., 1956, v. 5, no. 3, [illegible] investigated for finding [illegible]

Card 1/3

L 32139-65
ACCESSION NR: AP5002686

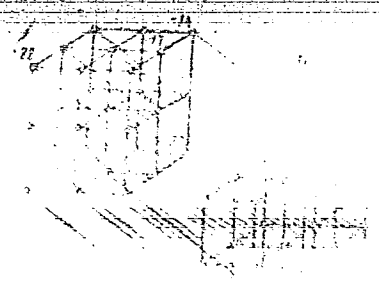
variables defined by sets T and N (see Enclosure 1) is [illegible]
Its folded disjunctive form has this appearance:

$$x_0x_1x_2x_3 \vee x_4x_1x_2x_3 \vee x_0x_1x_2x_3 \vee x_0x_1x_2x_3 \vee x_4x_1x_2x_3 \vee x_0x_1x_2x_3 \vee [illegible]$$

[illegible] apparently cannot always [illegible]

Card 2/3

L 32439-65
ACCESSION NR: AP5002606



L 04408-67 EWT(d)/EWP(1) IJP(c) BB/GG

ACC NR: AT6019738 SOURCE CODE: UR/3192/65/000/011/0005/0017

AUTHOR: Bogolyubov, I. N.

34
30
B+1

ORG: none

TITLE: The synthesis of three-valued logic functions using threshold elements

SOURCE: Akademiya nauk Latviyskoy SSR. Institut elektroniki i vychislitel'noy tekhniki. Avtomatika i vychislitel'naya tekhnika, no. 11, 1965, 5-17

TOPIC TAGS: threshold element, logic circuit, function theory

16C

ABSTRACT: The author investigates the methods for the establishment of circuits realizing three-valued logic functions (which take the values of $\{-1, 0, 1\}$) in conjunction with the three-valued threshold functions $f(x)=\operatorname{sign}_3(\sum_{j=1}^{n}\xi_j x_j - \tau_i)$. The designs are based on three-valued threshold elements and the proposed approaches carry out the synthesis according to the bases, disjunctive normal form implicants, and elimination of variables. Examples presented indicate that the special feature of the synthesis of three-valued logic functions using threshold elements is their pattern of behavior. Unfortunately, this does not ensure the optimal quality of the

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UDC: 62-507

L 04408-67
ACC NR: AT6019738

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resulting circuits. The author thanks Cand. of Tech. Sci. V. I. Varshavskiy for his help during the work, B. L. Ovsiyevich and L. Ya. Rozenblyum for numerous valuable remarks, and also Doctor of Tech. Sci., Prof. N. G. Boldyrev for his constant interest. Orig. art. has:32 formulas and 8 figures.

SUB CODE: 12/ SUBM DATE: 00Nov64/ ORIG REF: 003/

Card 2/2 vmb

L 10915-67 EWT(d)/EWP(1) IJP(c) BB/GG/GD

ACC NR: AT6020527 SOURCE CODE: UR/0000/65/000/000/0080/0125

AUTHOR: Bogolyubov, I. N.; Ovsiyevich, B. L.; Rozenblyum, L. Ya. 37

ORG: none

TITLE: Synthesis of threshold and majority logic circuits 16

SOURCE: AN SSSR. Institut problem peredachi informatsii. Seti peredachi informatsii i ikh avtomatizatsiya (Circuits for information transfer and their automation), Moscow, Izd-vo Nauka, 1965, 80-125

TOPIC TAGS: logic design, computer logic, switching theory, circuit theory, logic element

ABSTRACT: The authors present a systematic survey of threshold and majority logic and in addition supply some original results. The threshold elements are defined. The necessary and sufficient criteria for the realization of a threshold logic function with arbitrary number of variables are derived by considering the results of a two-person zero-sum game. Simplified methods of function realization are presented where the realizability conditions are necessary but not necessarily sufficient. Later, sufficient conditions are found for a limited number of variables. The synthesis of linear-input threshold circuits are analyzed by reducing the

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ACC NR: AT6020527

problem of finding the weights of inputs and the threshold level to the problem of linear programming. Simplification methods for functions of n-variables are presented. The synthesis of a ternary threshold circuit is given as an example. The majority elements are defined. The synthesis of 3 and 5 input elements are stressed. It is shown how the number of inputs may be extended by using the tree methods of Cahn and Lindman. The methods of optimization of functions by minimizing the number of circuits, increasing their speed, and reducing their cost are shown. The possible trade-offs between these factors are analyzed. The realization of majority logic elements by ternary logic elements is considered. Orig. art. has: 65 formulas, 15 tables, and 17 figures.

SUB CODE: 09/ SUBM DATE: 04Dec65/ ORIG REF: 012/ OTH REF: 058

Card 2/2 bjp

AUTHOR: Bogolyubov, I. S., Candidate of Technical Sciences SOV/88-58-97-2/7

TITLE: Initial Phase of Flow Mixing in an Ejector (Nachal'naya faza smesheniya potokov v ezhektore)

PERIODICAL: Trudy Moskovskogo aviatsionnogo instituta, 1958, Nr. 97; Addition of a Supplementary Volume in Jet Apparatus (Prisoyedineniye dopolnitel'noy massy v struynykh apparatakh), pp. 5-42 (USSR)

ABSTRACT: The author states that in establishing the theory of mixing of two flows the following assumptions were made: a) the nature of the flow in the mixing chamber is only slightly affected by the viscosity of gases; b) speed and temperature of the flow of gases are uniformly distributed in both sections of the mixing chamber; c) the flow in the mixing chamber appears to be stable and proceeds without heat exchange with the walls; d) the mixing of gas flows proceeds according to the laws of turbulent mixing; e) pressure is constant at all points of the mixing chamber. The author investigates subsonic flows, but due to the complexity of phenomena occurring in ejectors limits himself to the study

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Initial Phase of Flow Mixing in an Ejector

of the initial phase of the mixing of flows from the moment of their meeting to the moment of absorption of one of the flows. Equations obtained by the author make possible the determination of length of the initial mixing sector with constant pressure and constant profile of the sector. The influence of the ejection and turbulence coefficients may also be evaluated. The author's theoretical work was sufficiently verified experimentally. Experiments were conducted on a plane cross-section model air ejector. The study was restricted to the problems of mechanics and heat transfer in a mixing chamber of a jet flow (flow geometry, distribution of velocities and temperatures). The aims of this study were: 1) to investigate the mixing process of plane-parallel flows in a conduit with walls of a determined profile; 2) to determine the effect of the compressibility factor on the flow mixing process, as compressibility was not taken under consideration in the theory of mixing. The experiment was conducted as follows: Compressed air with presures up to 1.85 atm and temperatures up to 120°C was sent into the central nozzle of the ejector at the rate of 0.5 kg/sec, from the compressor of an aircraft engine (M-105). The second flow was air from the atmosphere,

regulated by a detachable venturi pipe with a receiver. The walls of the ejector were made of plexiglass to make possible direct observation. The length and profile of the ejector were made according to the theoretical equations. Tests were made at two operating conditions: 1) sonic speed of the primary flow ($M = 1$, $\frac{P_k}{P_o} = 1.85$ atm) and 2) subsonic speed of the primary flow ($M = 0.8$, $\frac{P_m}{P_o} = 1.56$ atm). Graphic representation of the results is given. The author considered the increase of thrust of engines as a secondary problem. He discovered, however, in his experiments with an ejector of rectangular cross-section (for discharge of 0.5 kg/sec, pressure ratio 1.85 atm, and external dimensions of the nozzle admissible for aircrart engines), that the increase of thrust is 25-35 percent of the primary jet. The author arrives at the following conclusions: 1) Equations characterizing the mixing process in the initial sector of a constant-pressure mixing chamber were obtained, among them equations of length and profile of the wall of the mixing chamber. 2) The length L_1 of the initial sector of the mixing chamber depends essentially on the ejection coefficient μ,

and on the value of experimental constant a, which characterizes the structure of the turbulent flow of the working gas. The dependence of L on the difference of speeds (u_1, u_2, $m = \frac{u_1}{u_2}$), and temperatures of flows (T_1, T_2) is insignificant. 3) The wall profile of the initial sector of the mixing chamber is nearly a straight line, at a small angle to the axis of the ejector. This angle depends entirely on a, m, $\frac{T_n}{T_1}$. 4) The effect of compressibility on the flow mixing process is negligible up to sonic (M = 1) velocities. The bibliography consists of 6 references, 3 of them Soviet, 2 German and English.

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BOGOLYUBOV, I.S.

SOV/3848
SOV/11-M-97

PHASE I BOOK EXPLOITATION

Moscow. Aviatsionnyy institut imeni Sergo Ordzhonikidze

Prisoyedineniye dopolnitel'noy massy v struynykh apparatakh; sbornik statey (Mass-Flow Augmentation in Jet Engines; Collection of Articles) Moscow, Oborongiz, 1958. 238 p. (Series: Its: Trudy, vyp. 97) Errata slip inserted. 2,210 copies printed.

Ed. (Title page): A.V. Kvasnikov, Professor; Ed. (Inside book): S.G. Boshenyatov (Deceased); Managing Ed.: A.S. Zaymovskaya, Engineer; Ed. of Publishing House: T.A. Valedinskaya; Tech. Ed.: L.A. Lebedeva.

PURPOSE: This collection of articles is intended for scientific workers at engineering schools and research institutes and also for engineers working in experimental design offices.

COVERAGE: This collection contains abridged dissertations from the Department of Aviation Engine Theory, Faculty No. 2, of the Moskovskiy aviatsionnyy institut (Moscow Aviation Institute)

Card 1/12

Mass-Flow Augmentation in Jet Engines (Cont.) SOV/3848

during the period from 1946 to 1953. The articles consider various problems arising in augmenting the mass flow in jets and in utilizing the additional mass flow for increasing the thrust of jet engines. References accompany each article. No personalities are mentioned.

TABLE OF CONTENTS:

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the mixing chamber and permit the calculation of the length and the profile of the mixing-chamber wall, as well as the effect of the ejection coefficient and the turbulence factor on the mixing. It was found that the length of the initial sections of the mixing chamber depends primarily on the ejection coefficient μ and the magnitude of the test constant α which characterize the structure of the turbulent flow of the driving gas. The length of the mixing chamber is essentially independent of the difference in the velocities and temperature of the flows. The profile of the wall of the entrance section is extremely close to a straight line, slightly inclined with respect to the ejector axis. This angle of inclination depends primarily on μ, α, the velocity ratio u_2/u_1, and the temperature ratio T_2/T_1. The compressibility of the basic flow has a negligible effect on the mixing process up to sonic velocity. The analytical results are supported by experiments with an air ejector. As an incidental result of the study it was shown that, for a mass flow of the basic jet equal to 0.5 kg/sec and a pressure ratio of 1.85, an increase in thrust equal to 25-35 percent of the thrust of the basic jet could be obtained.

This paper presents a theoretical investigation of the parameters of a gas flow at the entrance and exit of a nozzle-ejector shroud, including the velocity fields inside and outside the shroud, the pressure distribution at the walls of the shroud, and the thrust of the nozzle and shroud combination. The derivation of the fundamental equations makes use of the methods of internal aerodynamics of an incompressible fluid in combination with potential flows around bodies. The method consists of summing up two elementary flows, the flow in the field of a system of vortices whose distribution is governed by the geometry of the shroud, and the flow of a turbulent submerged jet. It is shown that it is possible to find velocity fields of a two-dimensional turbulent flow inside an ejector shroud with a given

geometry of the walls without taking into consideration dissipation forces (viscosity and thermoconductivity). Comparison of the analytical results with experimental data shows that the properties of the complex flow obtained by the aforementioned theoretical treatment coincide with the properties of the actual flow observed in the ejector; that is, the character of turbulent mixing in an ejector is the same as in a free turbulent submerged jet. The flow in an ejector may thus be regarded as a flow of a submerged jet which is deformed due to the presence of the engine walls whose effect may be theoretically identified with the effect of a system of point vortices where the turbulent-viscosity coefficient is assumed constant in determining the vortex intensity. The actual velocity fields inside and outside the engine differ from the ideal, particularly near the walls, because of the presence of the boundary layer. Corrections for the effect of the boundary layer are given which permit determination of the actual velocities inside the engine. The thrust determined from the analytical equations was found to be in good agreement with experimental

data. A number of sample calculations are presented.

This paper presents the results of an experimental study of the relationship between thrust and the geometric parameters of nozzles and ejector shrouds. It was found that the thrust increment due to the addition of atmospheric air to the basic jet depends on the ratio of the diameter of the cylindrical part of the shroud and the nozzle and, as shown by the tests, may reach 70 - 85 percent for constant flow. The ejection coefficient μ was found to be directly proportional to the diameter of the cylindrical part of the shroud. With large increases of the mass-flow augmentation ratio, a considerably larger increase in thrust was obtained than in the case of small ratios (60-80 percent instead of 20-35 percent). Large thrust increases obtained in the experiments suggest the possibility of using the ejector shroud on jet engines at low flight speeds, for example during take-off.

Mass-Flow Augmentation in Jet Engines (Cont.) SOV/3848

This paper presents a theoretical and experimental study of the effects of adding atmospheric air to pulsating jets. It is shown that the addition of atmospheric air to a pulsating gas jet may lead to a considerable increase in its impulse. The addition of supplementary air mass is not only due to ejection, that is, the parallel addition of air into the driving jet which is associated with mixing, but also to the interaction of separate masses of air added gradually. Two forms of this gradual addition are possible, namely gradual expulsion of additional mass and gradual inflow of air behind the driving jet. The largest increment in thrust (up to 120 percent of the thrust of a single nozzle) was obtained in a compound jet nozzle with an open shroud which includes the three basic forms of the process of mass addition (ejection, expulsion, and gradual inflow of air behind the driving jet). The gradual inflow is the basic process which produces a large increment in thrust and determines the character of its variation as a function of the basic parameters of the pulsating flow. The thrust increases obtained in the process with gradual inflow were found to be close to the corresponding calculated values based on the assumption of no losses due to friction or vortex formation. This

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result confirms that the process of gradual inflow involves small energy losses and has efficiencies of 75 percent and more. The tests also showed that the thrust increases are reduced as the cyclic frequency and the initial rate of pressure drop are increased. For a given frequency the thrust increment increases as the outflow from the central nozzle becomes more unsteady. The experiments also showed that the addition of atmospheric air to the exhaust of a piston engine may increase the exhaust thrust up to 70 percent.

This brief paper reports the results of tests to determine the thrust increase of the exhaust of a piston engine due to the addition of atmospheric air. It was found that an open ejector shroud at the exhaust exit increased thrust between 50 and 70 percent. The authors consider that

the use of ejectors on piston engines exhaust pipes is very practical where use can be made of secondary masses of air already entrained by the airplane (such as cooling air for the engine or radiation, etc.) or having small velocity with respect to the mixing chamber.

Shapiro, Ya.G., Candidate of Technical Sciences. Experimental Investigation of a Liquid Ejector

This paper presents the results of an experimental study to determine the optimum parameters of a liquid ejector and the energy losses occurring in it. The paper describes the test setup, measurements of velocity fields, pressures, velocity and pressure pulsations, and energy losses in the mixing chamber. The data are analyzed to study the mixing process and to determine the efficiency of the mixing chamber, the efficiency of the ejector, and the optimum parameters for the ejector. Methods for calculating the ejector parameters are also given. It was found that the presence of large pressure gradients leads to the formation of appreciable velocity pulsations at every point in the mixing zone, producing internal energy losses and losses due to friction along the walls. The losses due to friction were found to be 2 to 3 times as large as the values ordinarily used in calculations. An empirical formula is given for taking these losses into account. At the beginning of the mixing process a pressure drop occurs which is dependent on the ejector parameters and may reach 7 percent of the dynamic pressure of the driving jet. An empirical formula is given for estimating the magnitude of this pressure drop.

Mass-Flow Augmentation in Jet Engines (Cont.) SOV/3848

It was alsc found that equalization of the pressure field occurs in a length 3 to 4 times the diameter of the mixing chamber. The equalization of the velocity field was found to be practically completed in 7 diameters. Thus the length of the mixing chamber of an ejector operating with a diffuser should not be greater than 7 times the diameter. The operation of an ejector was shown to depend basically on the ratio of the velocities in the ejector. A rapid decrease in efficiency occurred when the velocity ratio deviated from the optimum value. A simple formula is given for estimating the optimum velocity ratio.

AVAILABLE: Library of Congress

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APASHEV, Magomed Daniyalovich; BOGOLYUBOV, I.S., otv.red.; GONCHAROVA, I.V., red.izd-va; URYADOVA, G.V., tekhn.red.

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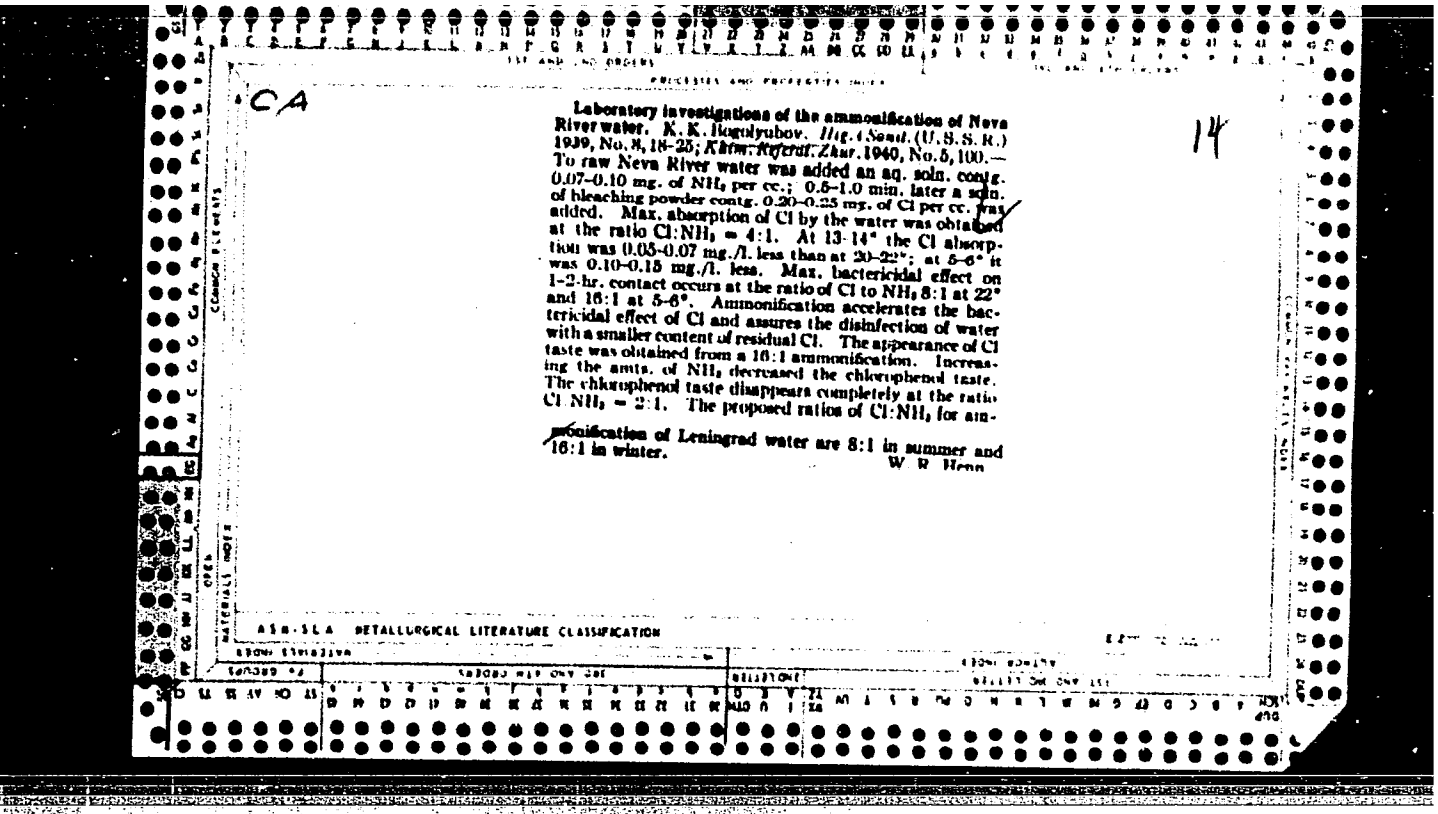
(Thermodynamics)



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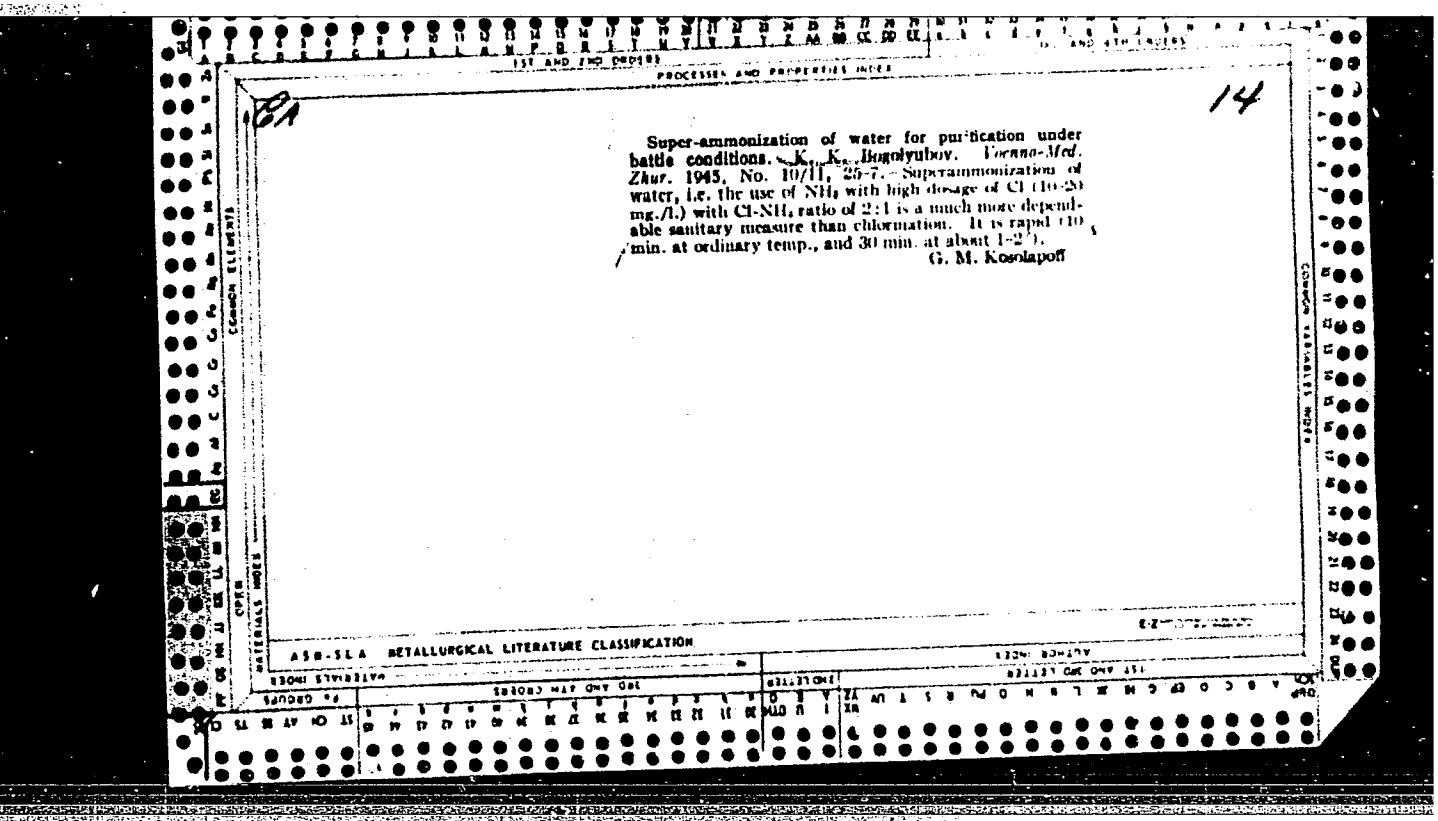
14

Laboratory investigations of the ammonification of Neva River water. K. K. Bogolyubov. *Hig. i Sanit.* (U.S.S.R.) 1939, No. 8, 18–25; *Khim. Referat. Zhur.* 1940, No. 5, 100.—To raw Neva River water was added an aq. soln. contg. 0.07–0.10 mg. of NH_3 per cc.; 0.5–1.0 min. later a soln. of bleaching powder contg. 0.20–0.25 mg. of Cl per cc. was added. Max. absorption of Cl by the water was obtained at the ratio $Cl:NH_3 = 4:1$. At 13–14° the Cl absorption was 0.05–0.07 mg./l. less than at 20–22°; at 5–6° it was 0.10–0.15 mg./l. less. Max. bactericidal effect on 1–2-hr. contact occurs at the ratio of Cl to NH_3 8:1 at 22° and 16:1 at 5–6°. Ammonification accelerates the bactericidal effect of Cl and assures the disinfection of water with a smaller content of residual Cl. The appearance of Cl taste was obtained from a 16:1 ammonification. Increasing the amts. of NH_3 decreased the chlorophenol taste. The chlorophenol taste disappears completely at the ratio $Cl:NH_3 = 2:1$. The proposed ratios of $Cl:NH_3$ for ammonification of Leningrad water are 8:1 in summer and 16:1 in winter.

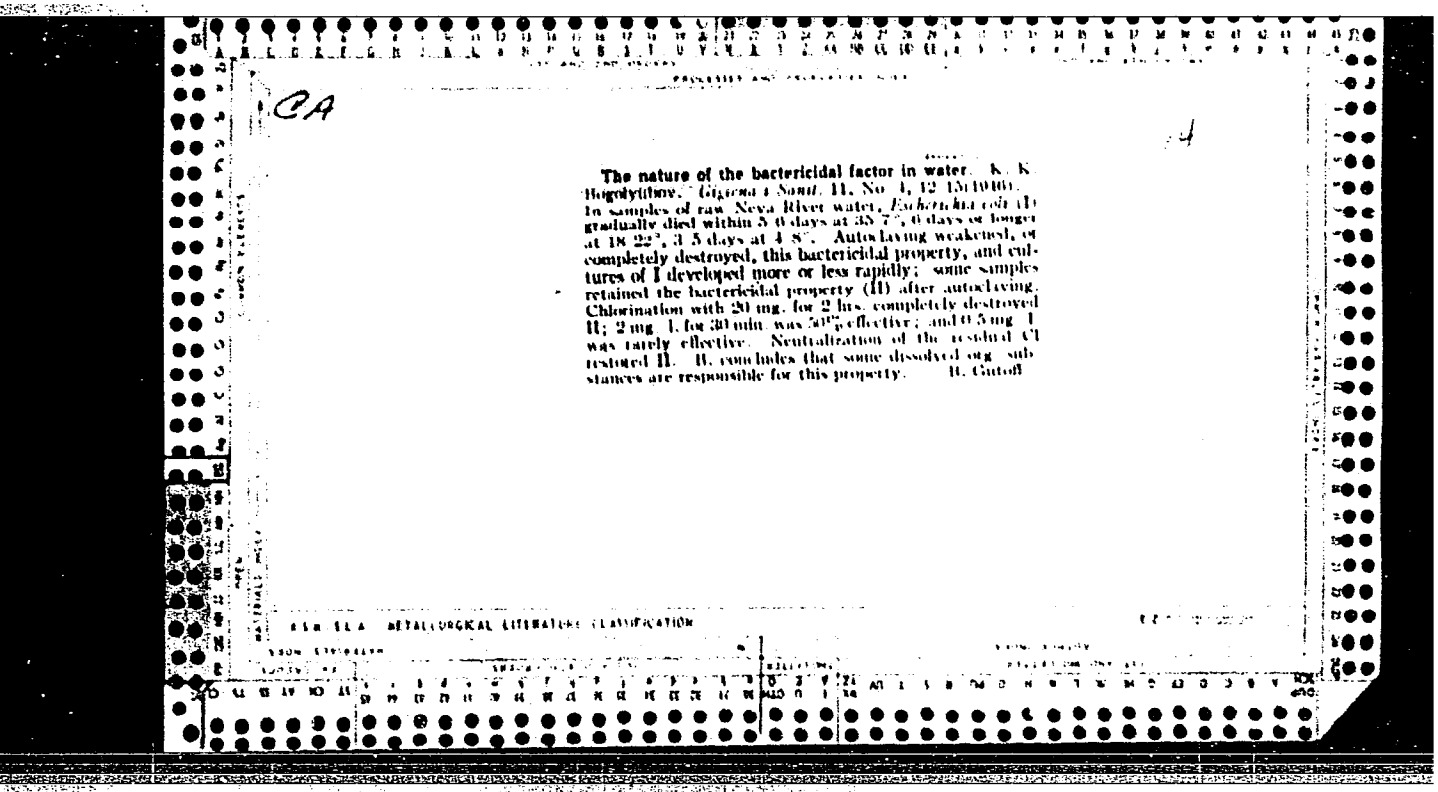
W. R. Henn

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA 14

Super-ammonization of water for purification under battle conditions. K. K. Bugolyubov. *Voenno-Med. Zhur.* 1945, No. 10/11, 25-7.—Superammonization of water, i.e. the use of NH_3 with high dosage of Cl (10-20 mg./l.) with Cl-NH_3 ratio of 2:1 is a much more dependable sanitary measure than chlorination. It is rapid (10 min. at ordinary temp., and 30 min. at about 1-2°).
G. M. Kosolapoff



CA

4

The nature of the bactericidal factor in water. K. K. Hogolyubov. *Gigiena i Sanit.* 11, No. 4, 12-15(1946). In samples of raw Neva River water, *Escherichia coli* II gradually died within 5-6 days at 35-7°, 6 days or longer at 18-22°, 3-5 days at 4-8°. Autoclaving weakened, or completely destroyed, this bactericidal property, and cultures of I developed more or less rapidly; some samples retained the bactericidal property (II) after autoclaving. Chlorination with 20 mg. for 2 hrs. completely destroyed II; 2 mg. l. for 30 min. was 50% effective; and 0.5 mg. l. was rarely effective. Neutralization of the residual Cl restored II. H. concludes that some dissolved org. substances are responsible for this property. H. Gutoff

BOGOLYUBOV K. K.

17T50

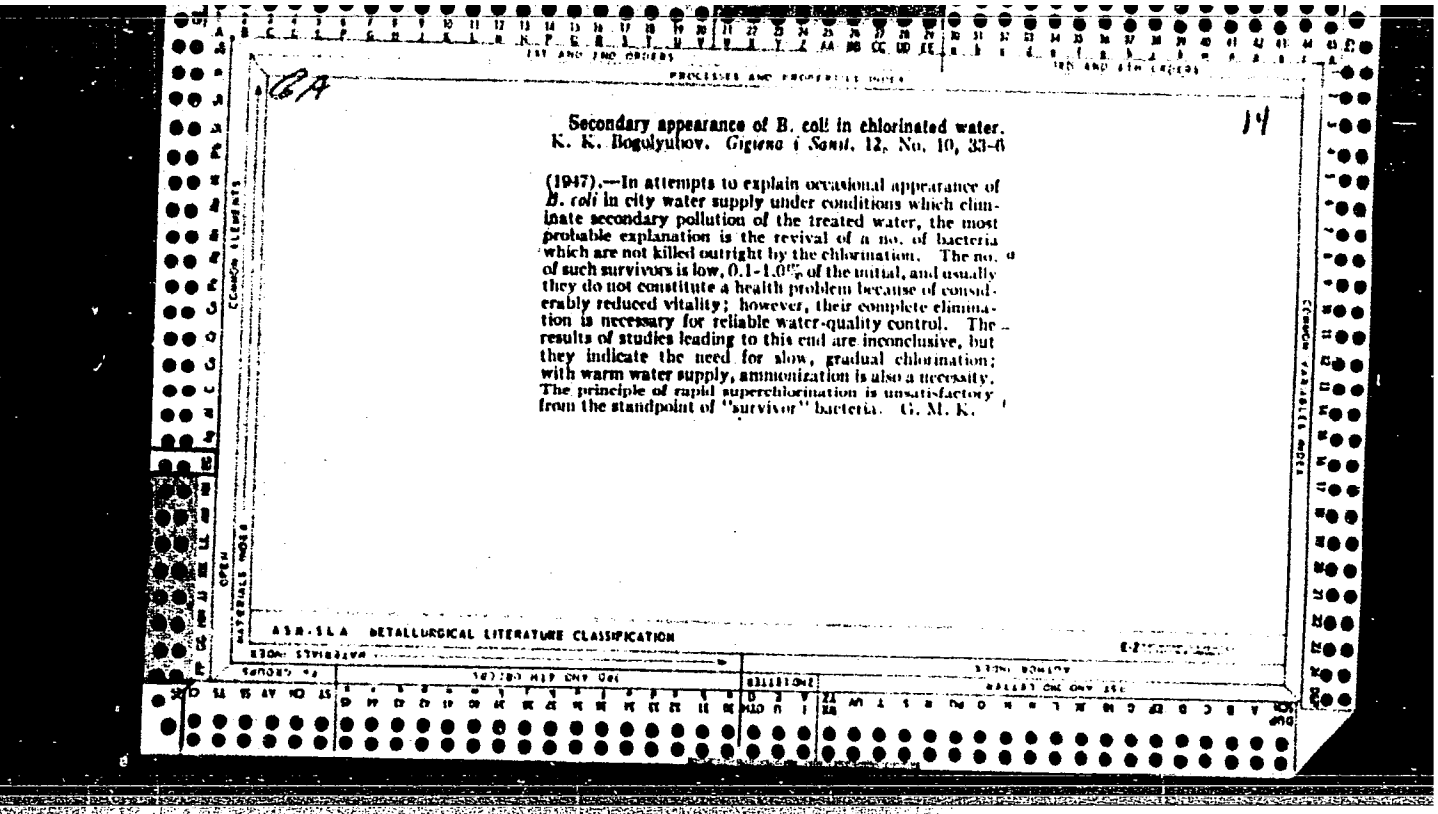
USSR/Medicine - Bacteriology Jul 1947
Medicine - Bacteria, Viability

"The Unsteady State of the Vital Capacity of Bacteria as a Reaction on the Action of Deleterious Agents," K. K. Bogolyubov, 1p

"Gigiyena i Sanitariya" Vol XII, No 7

Brief account of bacteriological research on viability of microorganisms.

17T50



Secondary appearance of B. coli in chlorinated water. K. K. Bogulyubov. *Gigiena i Sanit.* 12, No. 10, 33-6 (1947).—In attempts to explain occasional appearance of *B. coli* in city water supply under conditions which eliminate secondary pollution of the treated water, the most probable explanation is the revival of a no. of bacteria which are not killed outright by the chlorination. The no. of such survivors is low, 0.1-1.0% of the initial, and usually they do not constitute a health problem because of considerably reduced vitality; however, their complete elimination is necessary for reliable water-quality control. The results of studies leading to this end are inconclusive, but they indicate the need for slow, gradual chlorination; with warm water supply, ammonization is also a necessity. The principle of rapid superchlorination is unsatisfactory from the standpoint of "survivor" bacteria. G. M. K.

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Devices for measuring porewater pressures in soil. Osn., fund.i mekh.grun. 4 no.2:27-28 '62. (MIRA 15:8)
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Vacuum water lowering in shield tunneling for sewers. Stroi.trubo-prov. 8 no.7:23-25 Jl '63. (MIRA 17:2)

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GRIGOR'YEV, V.M., kand.tekhn.nauk; BOGOLYUBOV, K.S., inzh.

Use of rotary vacuum pumps with a liquid plunger for the evacuation of water-air mixtures. Khim.mashinostr. no.3:39 My-Je '63. (MIRA 16:11)

GRIGOR'YEV, V.M.; BOGOLYUBOV, K.S.

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(MIRA 18:3)

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(Road construction)

BOGOLYUBOV, L.N., inzhener.

Payments form the Industrial Bank for consolidated units. Avt.der. 18 no.6:31-32 O '55. (MLRA 9:2)
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Sur l'approximation trigonometriques des fonctions dans l'intervalle infini, II, IAN, CER, FIZ, MATEM (1931), 149-160.
Deyaki arifmetichni vlastivosti mayzhe-periodiv. Kiev, zap, kaf matem. Fiziki AN USSR, 4 (1939), 185-206.
O nekotorykh statisticheskikh metodakh v matematicheskoy fizike. L'vov, izd, AN USSR, (1945).
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edited by Kurosh, A. G.
Markushevich, A. I.
Rashevskiy, P. K.
Moscow-Leningrad, 1948

KRYLOV, NIKOLAI MITROFANOVICH, and N.N. BOGOLYUBOV

Novye metody nelineinoi mekhaniki v ikh primenenii k issledovaniiu prodol'noi ustoichivosti samoleta. (In: Vsesoiuznaia konferentsiia po aerodinamike. 3rd, Moskva, 1933 Trudy, I. p.101-109)

Title tr.: New methods in non-linear mechanics as applied to the longitudinal stability of airplanes.

TL505.V66 1933

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress,1955

Krylov, N., et Bogoliouboff, N. Sur les équations de [illegible] dans la théorie des perturbations de fonctions perturbatrices. Application à la mécanique céleste et à la mécanique quantique.

This is the first paper of a series which proposes to establish the theory of perturbations and transitions of state [illegible] classical and quasi-

computations quantities are derived which play the rôle [illegible] mately continuous (and limitedly ergodic) [illegible] case. The random phases of these [illegible]

the [illegible] having averages over the parameters in the [illegible] After a complicated set of approximate

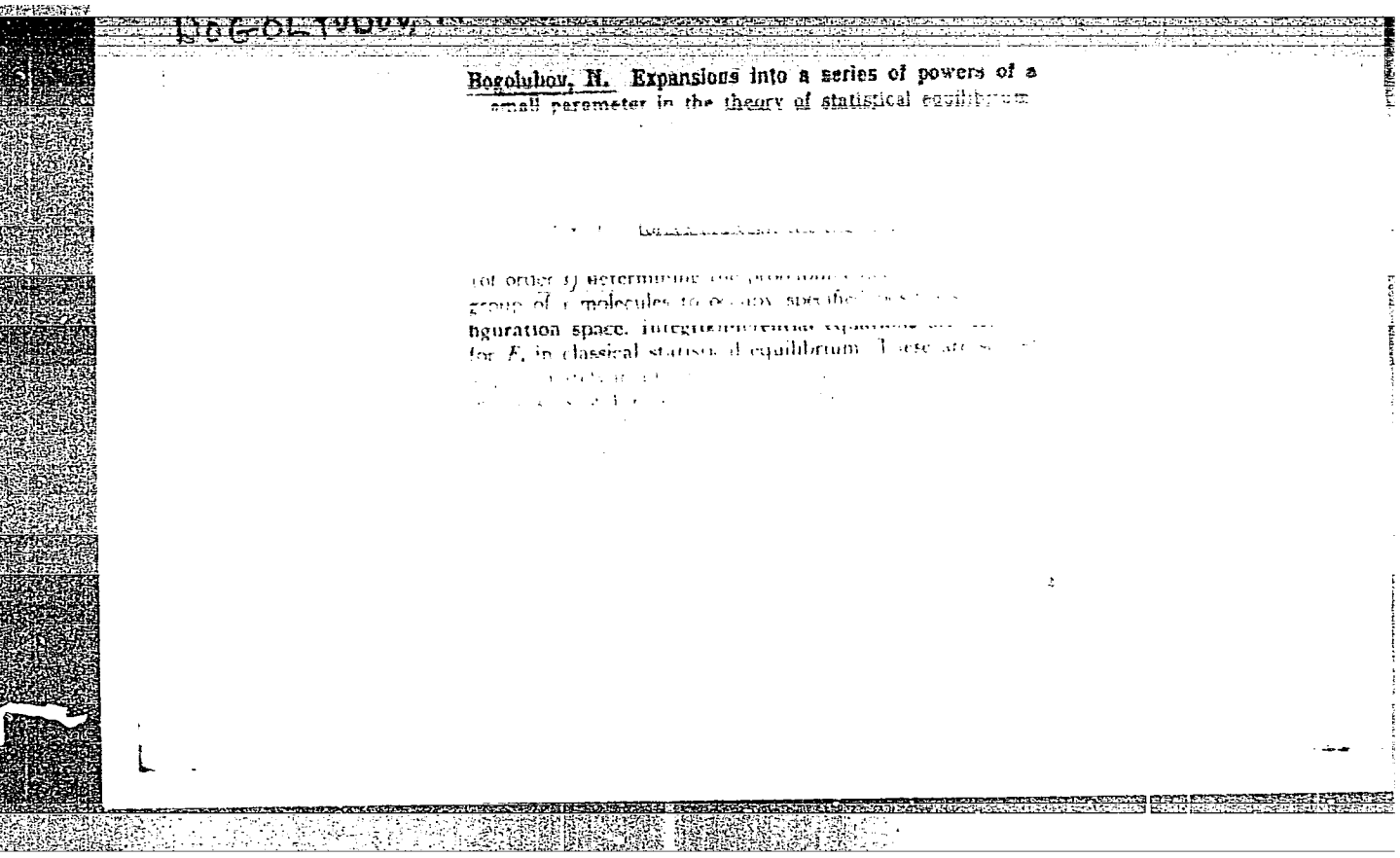
Source: Mathematical Reviews, Vol 8 No 9

Bogolyubov, N.N.

• Superscript N N Pro[illegible]

[illegible] Expansion in powers of [illegible]
[illegible] statistical equilibrium [illegible]
classical mechanics. [illegible]

[illegible] Mathematical Reviews, Vol [illegible]



Bogolubov, N. Expansions into a series of powers of a small parameter in the theory of statistical equilibrium

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J. Phys. USSR 10, 265-274 (1946).

This paper is an extension of the methods used before in the study of the problem of the [illegible]

C. J. Bouwkamp, [illegible]

Source: Mathematical Reviews, 1948, Vol 9, No. 1

Bogolubov, N. Expansions into a series of powers of a small parameter in the theory of statistical [illegible]

[illegible]

[illegible] N. Kuper [illegible]

[illegible]

(Russian. English summary)

Translations are reviewed above.

Source: Mathematical Reviews, 1948, Vol 9, No. 1

AEC
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Physics, General

1321. Energetic Planes of a Non-ideal Bose-Einstein Gas, by N. N. Bogolyubov. *Vestnik Moskovskogo Universiteta*, No. 7, July 1947. 14 p. (In Russian)

With the help of the method of secondary quantization, the question of the determination of energetic planes of non-ideal Bose-Einstein gas is examined. The results received are used for introducing a series of equations and additions to the molecular theory of super fluids developed by the author of the article.

Bogolubov, N. On the theory of superfluidity. Acad. Sci. USSR. J. Phys. 11, 23-32 (1947).

The object of this paper is an attempt to withdraw from ... counterblast of objections" ... others [same J. 5, 71-90 (1941)] against the Bose ... of liquid helium ...

... the author ignores the fact ... Bose-Einstein condensation for quasi-particles ... excitations, have no constant particle ... obtained under the condition ...

... called ρ, which characterizes the ... quantized wave function ... consider this quantity as ...

... of a first order approximation ...

F. London (Durham, N. C.)

... Reviews, ... Vol 9, No. ...

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The present paper is a study of the phenomenon ...

... pictured as an ideal Bose Einstein gas ... "quasiparticles" representing elementary excitations ...

... form of the dependence of the ... on their momentum ... of superfluidity. *Author's summary*

Mathematical Reviews, Vol. , No.

Bogolyubov, N. N., and Gurov, K. P. Kinetic equations in quantum mechanics.

This paper extends to quantum [illegible] previously developed by the authors [Bogolubov, Acad. Sci.

[illegible] dependence on binary central interactions of the [illegible] of change of the distribution function with respect to momentum of a Bose system of identical monatomic molecules. A. J. Coleman (Toronto, Ont.)

Source: Mathematical Reviews, 1950 Vol 11 No. 2

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Theory of super-fluidity. Zbir.prats' Inst.mat.AN URSR no.9:89-103 '48. (Gas flow) (MLRA 9:9)

BOGOLYUBOV, N.N.; KREYN, S.G.

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(Operators (Mathematics)) (Spaces, Generalized)

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